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To a large audience of customers, suppliers and employees, Boeing provided a preview in St. Louis today of a revolutionary new weapon system concept called the Unmanned Combat Air Vehicle (UCAV).

The preview celebrated the completion of the manufacture and assembly of major elements of the UCAV advanced technology demonstration system, including the first of two unmanned air vehicles, a mission control console and a storage container - all of which were displayed at the event.

The UCAV advanced technology demonstration system is being developed by the Boeing Phantom Works R&D division under a \$131 million, 42-month cost-share agreement with the Defense Advanced Research Projects Agency (DARPA) and the U.S. Air Force.

Awarded to Boeing in March 1999, the program is designed to prove the technological feasibility of multiple UCAVs autonomously performing extremely dangerous and high-priority combat missions to augment the manned fighter strike force. The first such mission envisioned is the suppression of enemy air defenses.

"The development and deployment of UCAVs could significantly increase the effectiveness and survivability of manned fighter aircraft while lowering the overall cost of combat operations," said George Muellner, vice president-general manager of the Boeing Phantom Works and host of the event. "Boeing is excited to be opening new frontiers with the development of this revolutionary new concept."

Because of their small size, lack of pilot interfaces and training requirements, reusability and long-term storage capability, UCAVs are projected to cost up to 65 percent less to produce than future manned fighter aircraft and up to 75 percent less to operate and maintain than current systems.

To perform a mission, multiple UCAVs will be equipped with preprogrammed objectives and preliminary targeting information by ground-based mission planners. This mission can then be carried out autonomously, but can also be managed interactively or revised en route by UCAV controllers should new objectives or targeting information dictate.

Upon return, the air vehicle can be immediately prepared for another mission, or it can be dismantled and placed into a container for shipment elsewhere or storage up to 10 years. Container interfaces allow for periodic maintenance monitoring and software updating of the vehicle inside, which can be reassembled and prepared for combat within an hour.

To demonstrate the technological feasibility and affordability benefits of the UCAV system, the Boeing Phantom Works is drawing on the extensive experience and resources Boeing has in the areas of manned strike aircraft; weapon systems technology; unmanned systems; and command, control, communications, computer, intelligence, surveillance and reconnaissance technology.

"By tapping into all the technical capabilities and intellectual talent that exists across the defense, commercial, space and communications elements of our company, we are using the best of Boeing to produce an advanced concept that will be as affordable as it is effective," said Dave Swain, president of Phantom Works and chief technology officer for Boeing.

Boeing is developing the UCAV system in Seattle, St. Louis, Southern California, and Mesa, Ariz. The company is funding \$21 million of the \$131 million program.

The UCAV air vehicle has a stealthy, tailless, 27-foot-long airframe with a 34-foot wingspan. It weighs 8,000 pounds (empty) and can carry a 3,000 pound payload. The reconfigurable mission control station has robust and secure satellite-relay and line-of-sight communications links for distributed control in all air combat situations.

All of the displayed elements of the UCAV system will be shipped in late October to NASA's Dryden Flight Test Center in California. Flight testing of the first air vehicle is scheduled to begin in spring 2001. Testing of both air vehicles performing a simulated suppression of air defenses mission is scheduled to begin in mid-2002.

If this advanced technology demonstration program is successful, the DoD could employ UCAV weapon systems in the post-2010 time frame.

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